504P0425

FIG. 1

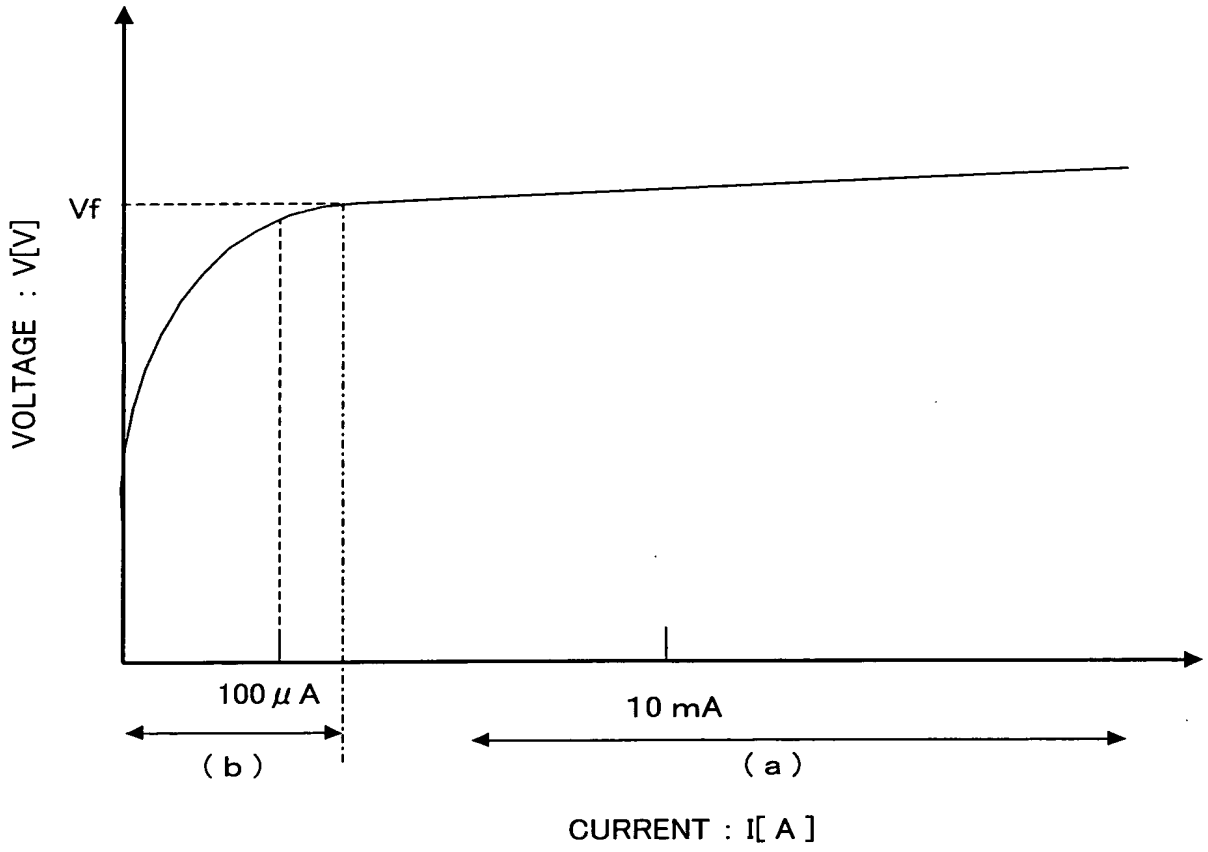
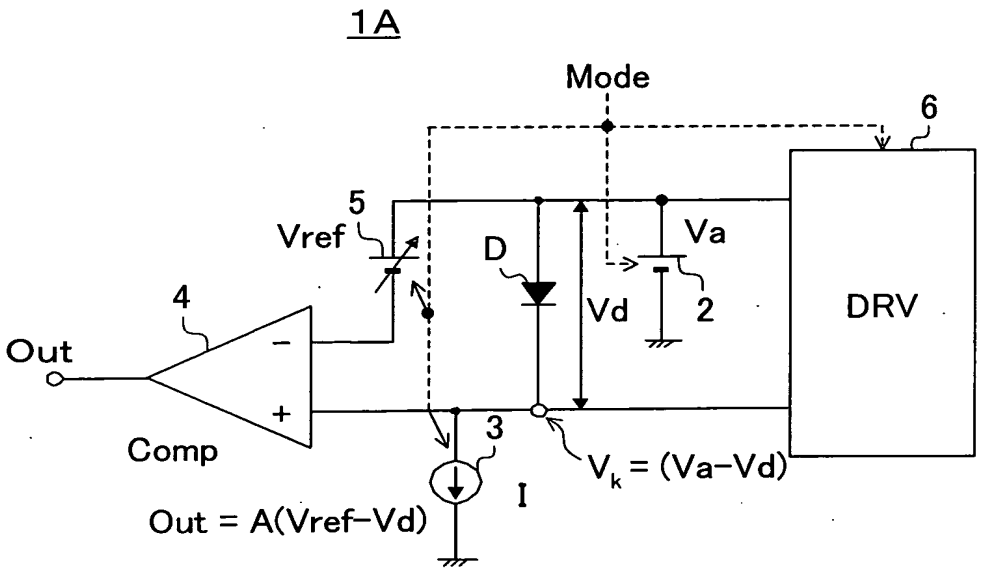
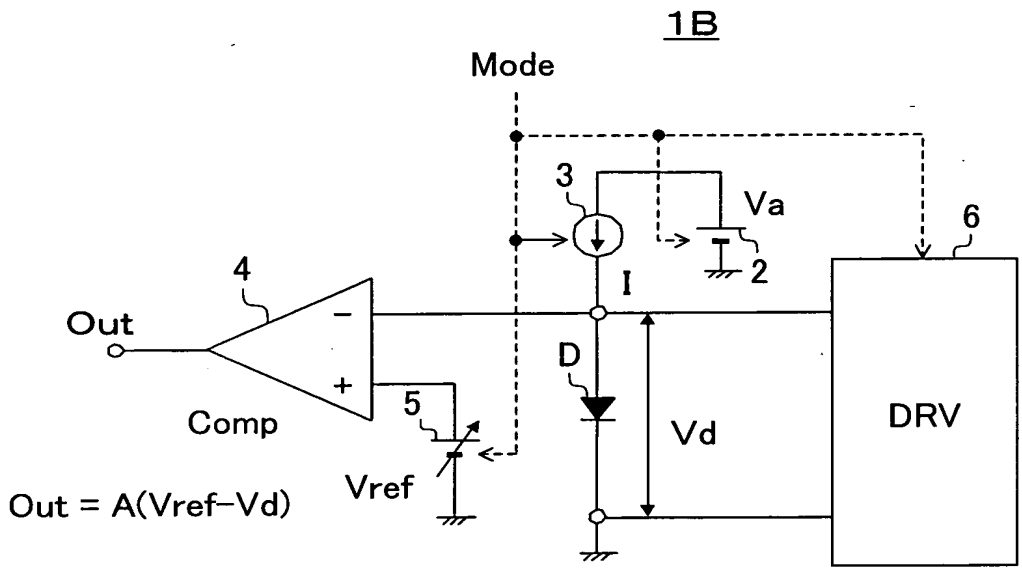


FIG. 2



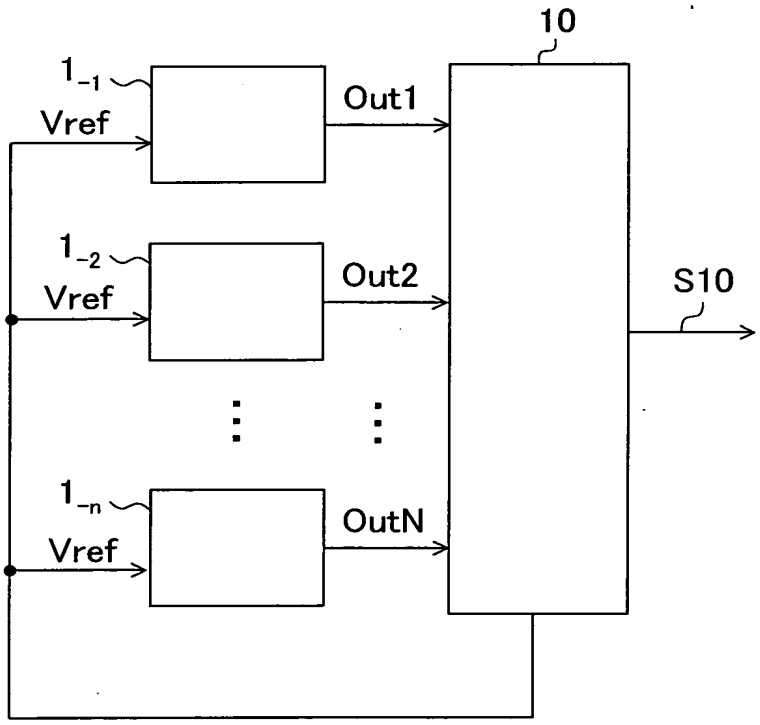
1A: VOLTAGE DETECTION CIRCUIT
2: POWER SOURCE
3: CONSTANT CURRENT SOURCE
4: COMPARATOR
5: REFERENCE VOLTAGE (Vref) SUPPLY MEANS
D: LIGHT-EMITTING DIODE (LED)
Vd: VOLTAGE BETWEEN TERMINALS
I: CONSTANT CURRENT
Mode: SIGNAL INDICATING DEFECT DETECTION MODE

FIG. 3



1B : VOLTAGE DETECTION CIRCUIT
2 : POWER SOURCE
3 : CONSTANT CURRENT SOURCE
4 : COMPARATOR
5 : REFERENCE VOLTAGE (Vref) SUPPLY MEANS
D : LIGHT-EMITTING DIODE (LED)
Vd : VOLTAGE BETWEEN TERMINALS
I : CONSTANT CURRENT
Mode : SIGNAL INDICATING DEFECT DETECTION MODE

FIG. 4



1_{-1}～1_{-N}: VOLTAGE DETECTION CIRCUIT
10: DEFECT DETECTION CIRCUIT

FIG. 5

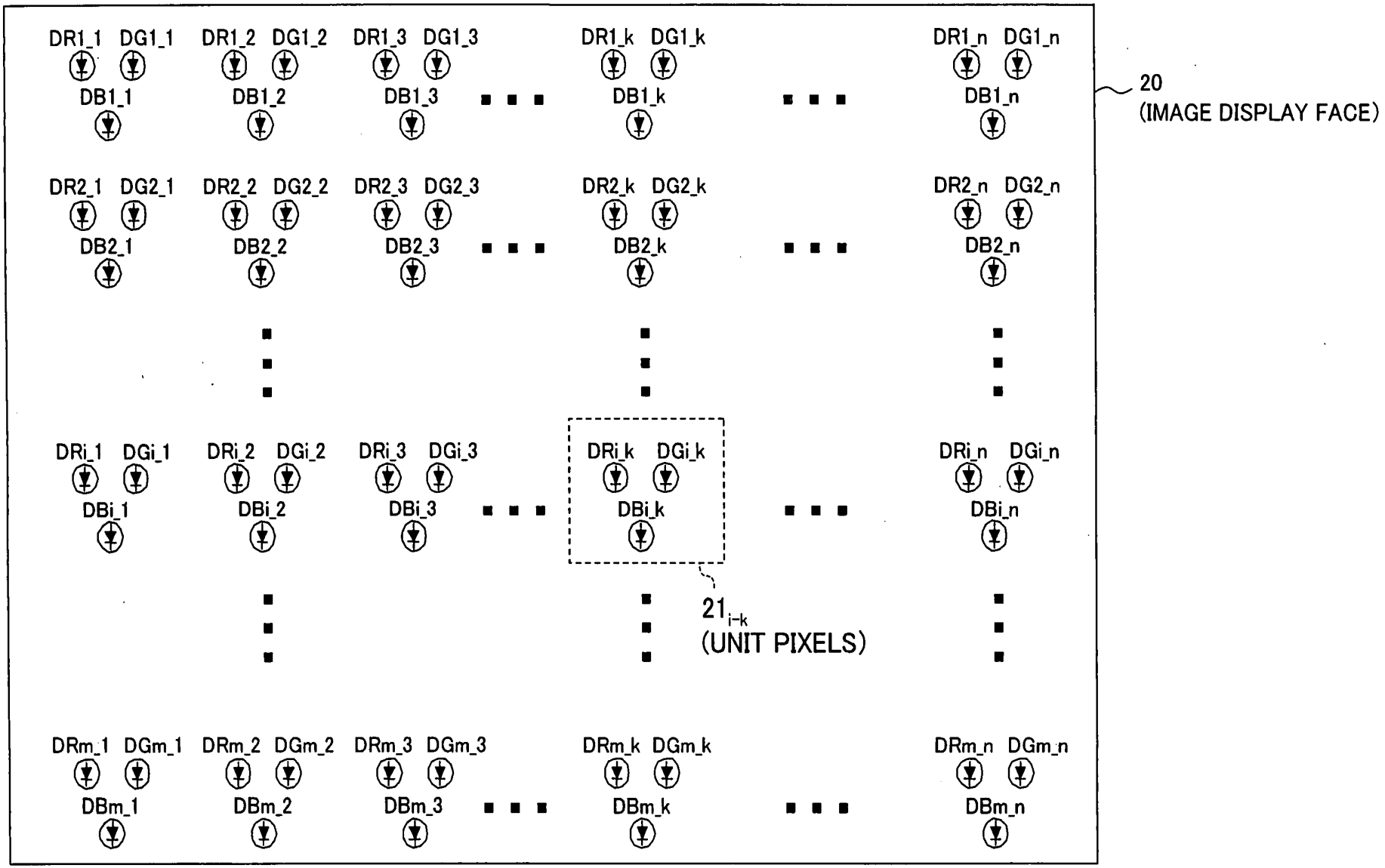
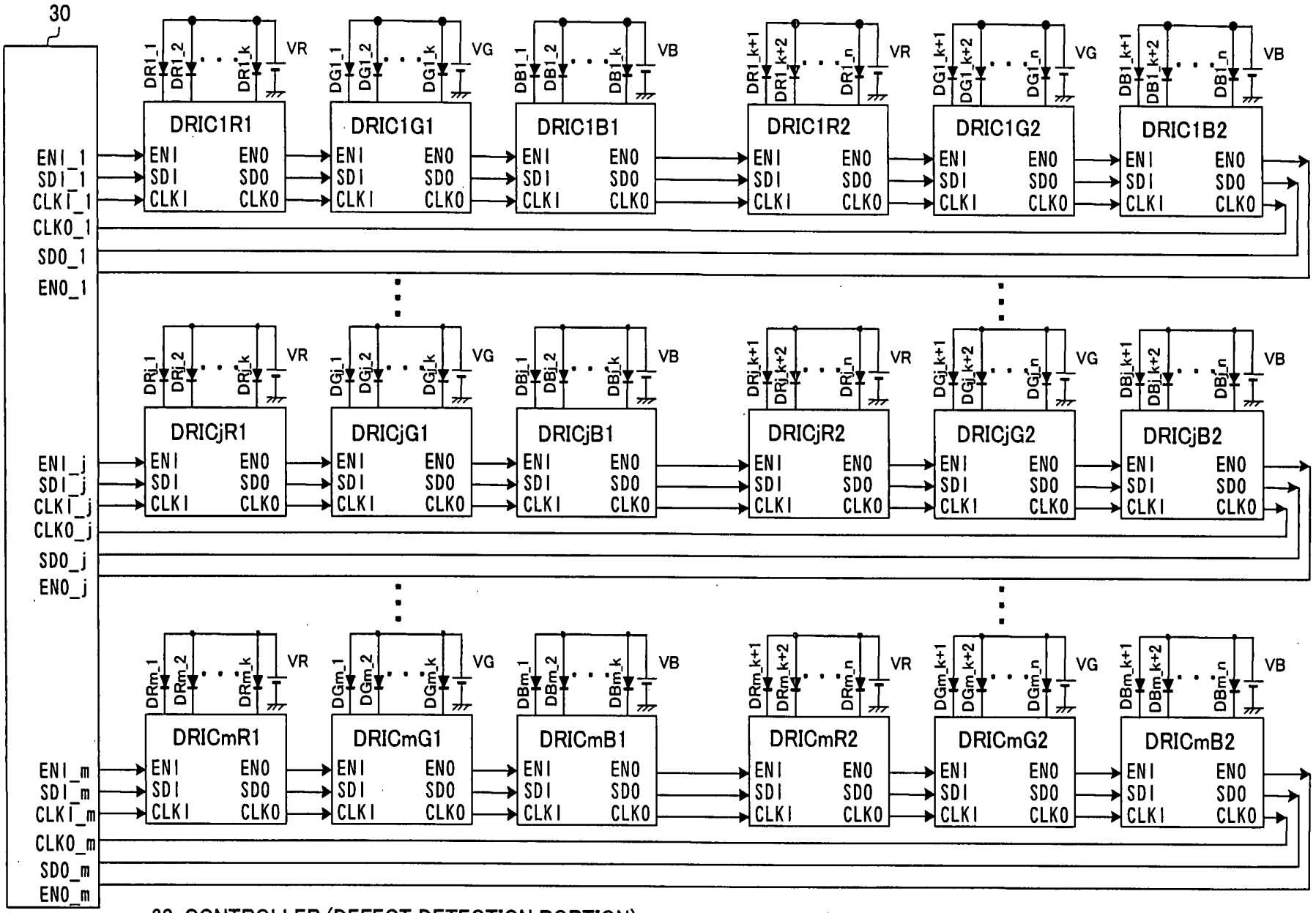
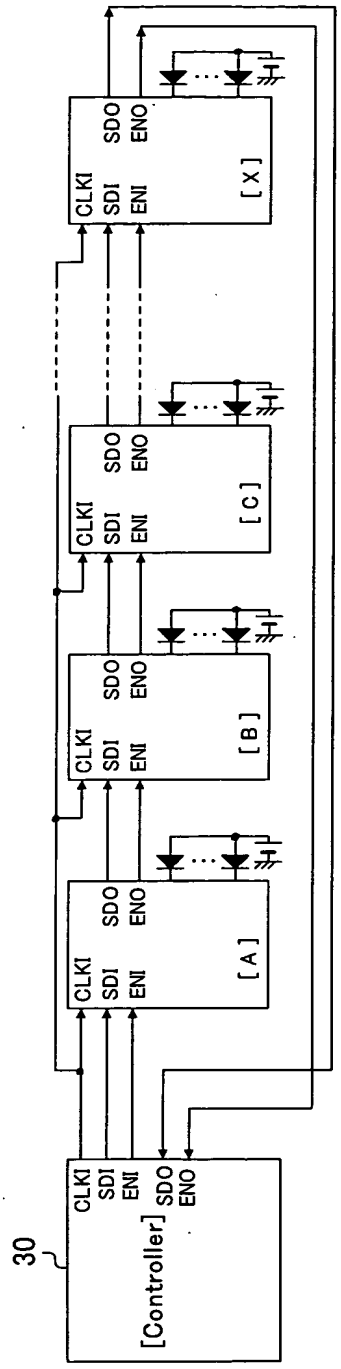

DR1_1 DG1_1 DB1_1
DR1_2 DG1_2 DB1_2
DR1_3 DG1_3 DB1_3
DR1_k DG1_k DB1_k
DR1_n DG1_n DB1_n
20
(IMAGE DISPLAY FACE)
DR2_1 DG2_1 DB2_1
DR2_2 DG2_2 DB2_2
DR2_3 DG2_3 DB2_3
DR2_k DG2_k DB2_k
DR2_n DG2_n DB2_n
DRi_1 DGi_1 DBi_1
DRi_2 DGi_2 DBi_2
DRi_3 DGi_3 DBi_3
DRi_k DGi_k DBi_k
DRi_n DGi_n DBi_n
21i-k
(UNIT PIXELS)
DRm_1 DGm_1 DBm_1
DRm_2 DGm_2 DBm_2
DRm_3 DGm_3 DBm_3
DRm_k DGm_k DBm_k
DRm_n DGm_n DBm_n

FIG. 6



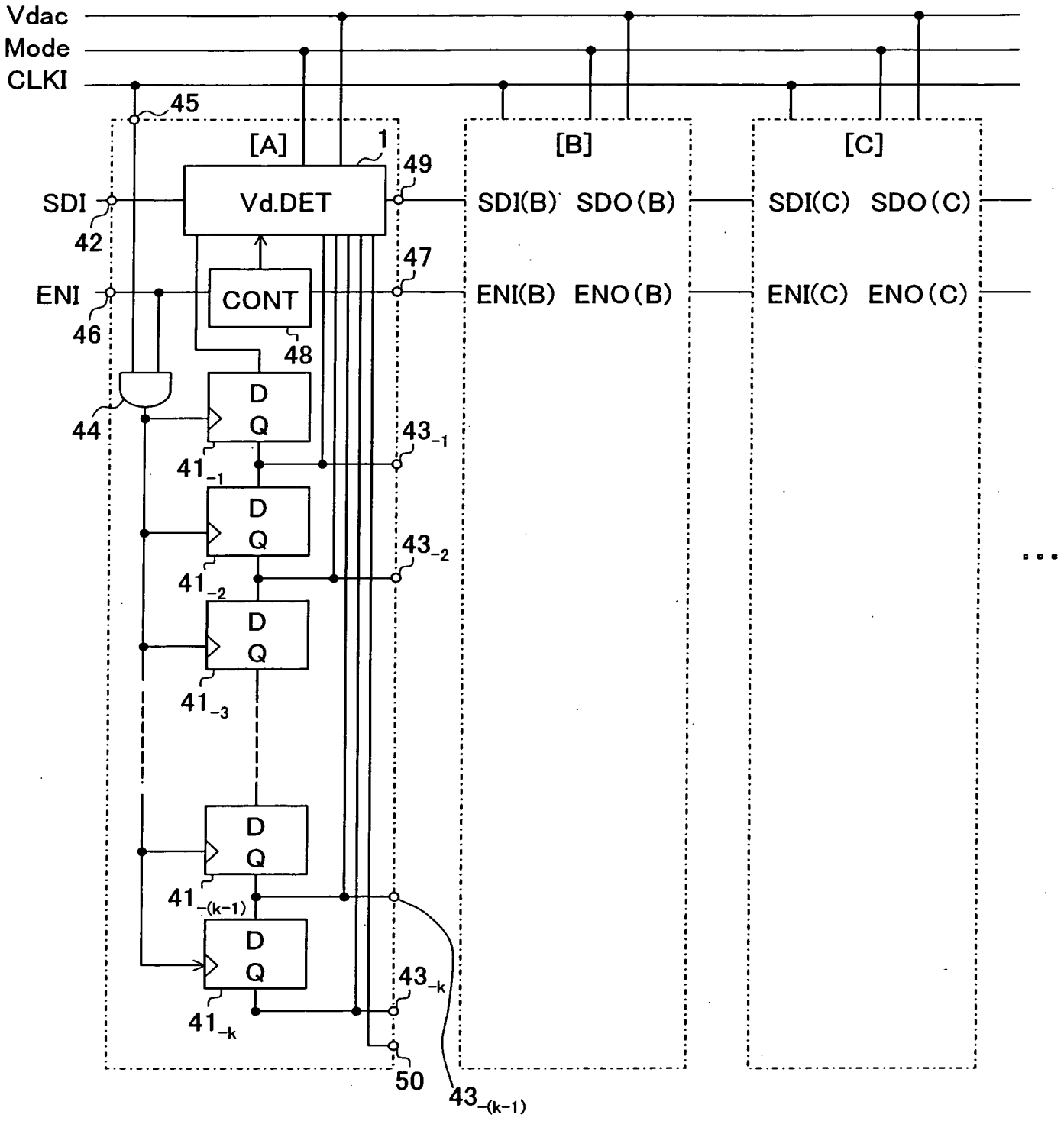
30: CONTROLLER (DEFECT DETECTION PORTION)
DRIC: DRIVER IC (DRIVE CIRCUIT DEVICE)

FIG. 7



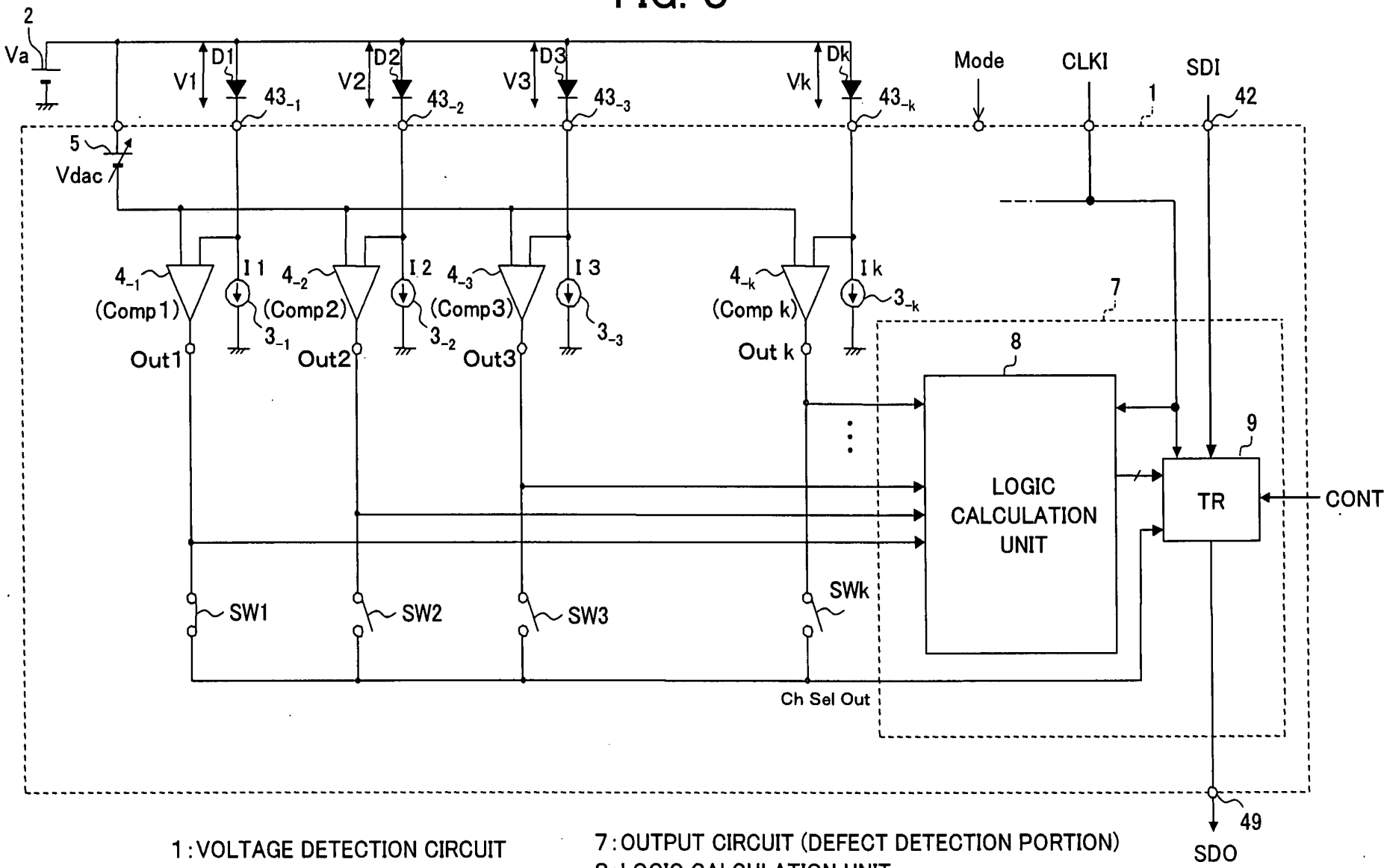
30:CONTROLLER (DEFECT DETECTION PORTION)
[A]TO[X] :DRIVER IC (DRIVE CIRCUIT DEVICE)

FIG. 8



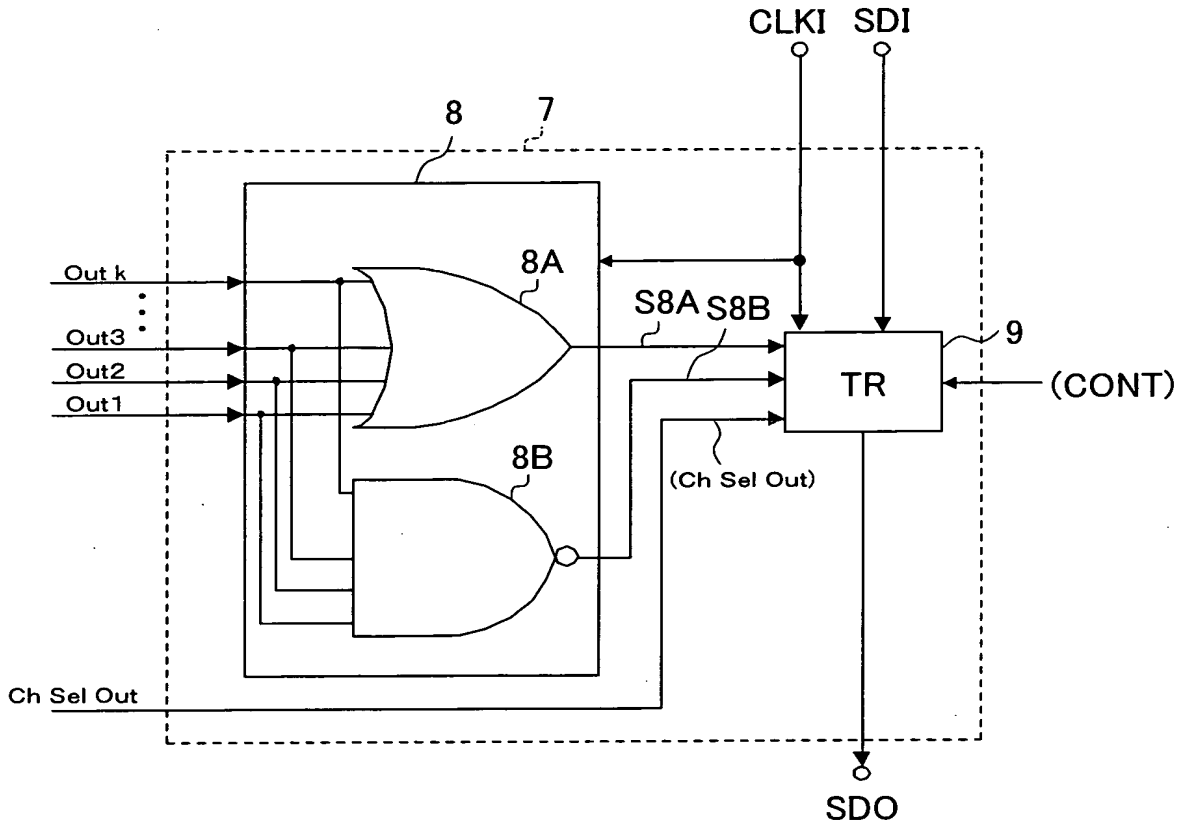
[A] TO [C]: DRIVER IC (DRIVE CIRCUIT DEVICE)
1 : VOLTAGE DETECTION CIRCUIT
Vdac : REFERENCE VOLTAGE
Mode : SIGNAL INDICATING DEFECT DETECTION MODE
SDI : INPUT DATA SIGNAL
ENI : INPUT ENABLE SIGNAL

FIG. 9



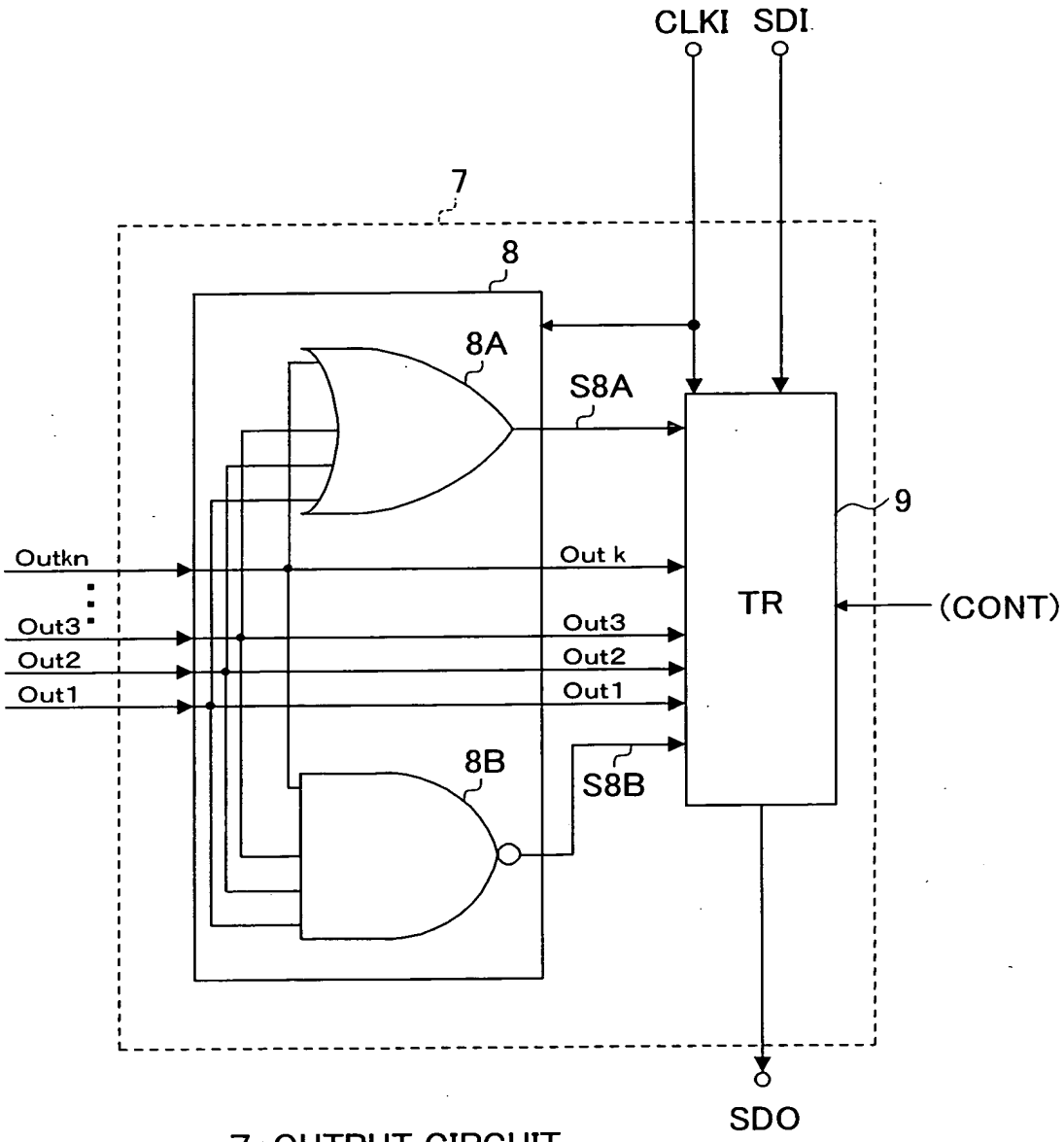
1 : VOLTAGE DETECTION CIRCUIT
2 : POWER SOURCE
3_{-1} ~ 3_{-k} : CONSTANT CURRENT SOURCE
4_{-1} ~ 4_{-k} : COMPARATOR
5 : DAC
7 : OUTPUT CIRCUIT (DEFECT DETECTION PORTION)
8 : LOGIC CALCULATION UNIT
9 : TRANSFER REGISTER PORTION

FIG. 10



7 : OUTPUT CIRCUIT
8 : LOGIC CALCULATION UNIT
9 : TRANSFER REGISTER PORTION
Out1 ~ Outk : COMPARATOR OUTPUT
SDI : INPUT DATA SIGNAL
SDO : OUTPUT DATA SIGNAL

FIG. 11



7 : OUTPUT CIRCUIT
8 : LOGIC CALCULATION UNIT
9 : TRANSFER REGISTER PORTION
Out1～Outk : COMPARATOR OUTPUT
SDI: INPUT DATA SIGNAL
SDO : OUTPUT DATA SIGNAL

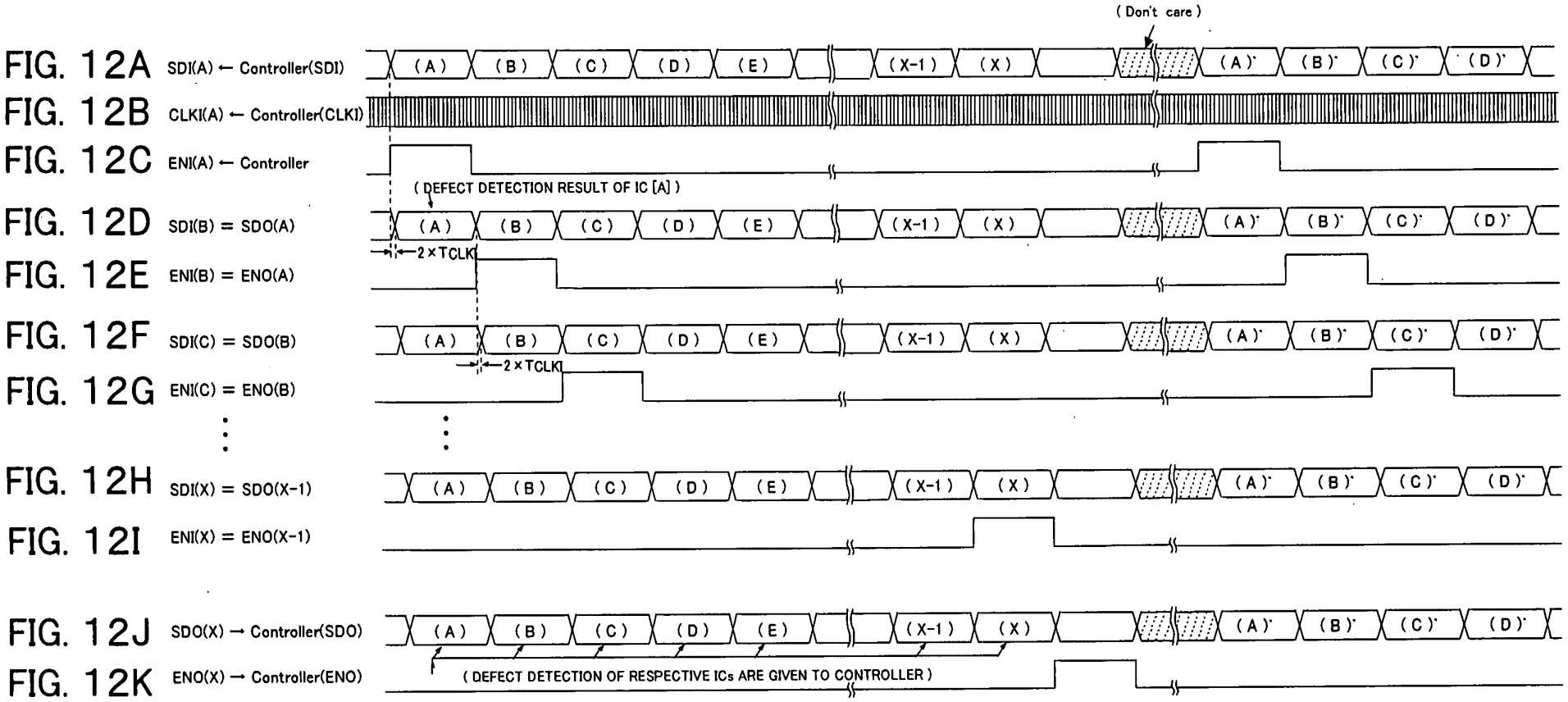


FIG. 12A
SDI(A) ← Controller(SDI)
FIG. 12B
CLKI(A) ← Controller(CLKI)
FIG. 12C
ENI(A) ← Controller
FIG. 12D
SDI(B) = SDO(A)
FIG. 12E
ENI(B) = ENO(A)
FIG. 12F
SDI(C) = SDO(B)
FIG. 12G
ENI(C) = ENO(B)
FIG. 12H
SDI(X) = SDO(X-1)
FIG. 12I
ENI(X) = ENO(X-1)
FIG. 12J
SDO(X) → Controller(SDO)
FIG. 12K
ENO(X) → Controller(ENO)
(Don't care)
(DEFECT DETECTION RESULT OF IC [A])
2 × TCLK
2 × TCLK
(DEFECT DETECTION OF RESPECTIVE ICs ARE GIVEN TO CONTROLLER)
(A) (B) (C) (D) (E) (X-1) (X) (A)' (B)' (C)' (D)'